PATENT CLAIMS

1. Method for statistical multiplexing of ATM connections, comprising

a plurality of ATM connections that are conducted over a common connecting line and for which an effective bandwidth (c^{eff}_k) is reserved in aggregate on this connecting line for this purpose, as well as with an acceptance algorithm (SR) by which, given arrival of a connection request of a further connection to be potentially added, this is allocated to a first (S_k) or second class (P_k) and by which, in conjunction with acceptance criteria plus a bandwidth to be adhered to, a decision is made as to whether this further connection to be potentially added can still be accepted on the common connecting line, characterized in that, proceeding from an initial value, the effective bandwidth (c^{eff}_k) is identified step-by-step with the setup/release of connections in that the acceptance algorithm (SR) is started at every step, and a first bandwidth (c^S_k) representative of the first class (S_k) and a second bandwidth (c^P_k) representative of the second class (P_k) is defined, and, based on the measure of the allocation of the connection, into consideration to one of the two classes (S_k, P_k) as well as of at least one acceptance criterion (c^{eff}_k), the first or second bandwidth (c^S_k, c^P_k) is modified by a first (SCR) or by a second traffic parameter value (PCR).

2. Method according to claim 1, characterized in that the first traffic parameter value is the sustainable cell rate (SCR) and the second traffic parameter value is the peak cell rate (PCR) of the appertaining connection.

3. Method according to claim 1 or 2, characterized in that one of the acceptance criteria is fashioned such in the case of the connection setup that, when the connection to be potentially newly added can be allocated to the first class (S_k), a calculation is carried out to see whether the first bandwidth (c^s_k) identified in the preceding step is adequate including this connection, whereby it is assured that the calculated, first bandwidth dare

not exceed the sum of the peak cell rates of all connections; and in that, when the acceptance criterion is met, the first bandwidth (c^s_k) is incremented by the first traffic parameter value (SCR_n) and is otherwise incremented by the second traffic parameter value (PCR_n).

4. Method according to claim 3, characterized in that, when the connection to be potentially newly added cannot be allocated to the first class (S_k), this is automatically allocated to the second class (P_k) and the second bandwidth (c^P_k) is incremented by the second traffic parameter value (PCR_n).

5. Method according to claim 1, 2, characterized in that the acceptance criterion is fashioned such in the case of a connection release that, when the connection to be released was allocated to the first class (S_k), a calculation is carried out to see whether the first bandwidth (c^S_k) calculated in the previous step and exclusive of this connection is adequate for the remaining connections, whereby it is assured that the calculated, first bandwidth dare not exceed the sum of the peak cell rates of all connections; and in that, when the acceptance criterion is met, the first bandwidth (c^S_k) is diminished by the second traffic parameter value (PCR_n) or is otherwise diminished by the first traffic parameter value (SCR_n).

6. Method according to claim 5, characterized in that, when the connection to be released was not allocated to the first class (S_k), it is automatically assumed that this was allocated to the second class (P_k) and, in this case, the second bandwidth (c^P_k) is diminished by the second traffic parameter value (PCR_n).

7. Method according to claim 5, characterized in that the acceptance criterion is fashioned such in the case of a connection release that, when the connection to be released was allocated to the first class (S_k), a calculation was carried out to see whether the first bandwidth (c^S_k)

determined in the previous step and minus this connection is adequate for the remaining connections; and in that, when the acceptance criterion is met, the first bandwidth (c^S_k) is diminished by the second traffic parameter value (PCR_n) or, otherwise, the value of the identified first bandwidth (c^S_k) is upwardly limited by the sum of the peak cell rates of the first class (S_k).

8. Method according to one of the preceding claims, characterized in that the effective bandwidth (c^{eff}_k) derives from the sum of the first (c^S_k) and second (c^P_k) bandwidth.

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9. Method according to one of the preceding claims, characterized in that the acceptance algorithm (SR) is started only once per connection to be potentially added or, respectively, released.

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